AMENDMENT TO THE CLAIMS

Please amend the claims in the above-identified patent application as follows wherein deleted material is marked with a strikethrough and new material is underlined to show the changes made:

1. (Previously Presented) A method of constructing a model for estimating at least one electrical characteristic for an extraction sub-problem, said method comprising:

identifying a set of physical measurements of integrated circuit components that define said extraction sub-problem;

selecting a set of training cases for said specific extraction sub-problem, each of said training cases including an associated set of said physical measurements;

solving said specific extraction sub-problem for each of said training cases using said associated set of physical measurements as an input to an accurate physics based model to generate an associated output; and

training a machine-learning model with Bayesian inference using said associated set of physical measurements and associated outputs as training data.

2. (Original) The method as claimed in claim 1 wherein said electrical characteristic comprises capacitance.

3. (Original) The method as claimed in claim 1 wherein said electrical characteristic comprises resistance.

4. (Previously Presented) The method as claimed in claim 1 wherein said extraction sub-problem comprises a section of interconnect wire and nearby interconnect wiring within a define halo.

5. (Previously Presented) The method as claimed in claim 1 wherein said extraction sub-problem comprises a section of interconnect wiring.

6. (Previously Presented) The method as claimed in claim 1 wherein one of said set of physical measurements comprises a spacing between a pair of interconnect lines.

7. (Previously Presented) The method as claimed in claim 1 wherein one of said set of physical measurements comprises a wire width.

8. (Previously Presented) The method as claimed in claim 1 wherein one of said set of physical measurements comprises a wire length.

9. (Previously Presented) The method as claimed in claim 1 wherein selecting a set of training cases comprises randomly generating input measurements with a gamma probability distribution.

10. (Original) The method as claimed in claim 1 wherein said electrical characteristic comprises delay.

11. (Original) The method as claimed in claim 1 wherein said machine-learning model comprises a neural network.

12. (Currently Amended) A computer-readable medium, said computer-readable medium comprising a set of instructions for constructing a model for estimating

at least one electrical characteristic for an extraction sub-problem by performing the steps of ~~method of~~:

identifying a set of physical measurements of integrated circuit components that define said extraction sub-problem;

selecting a set of training cases for said specific extraction sub-problem, each of said training cases including an associated set of said physical measurements;

solving said specific extraction sub-problem for each of said training cases using said associated set of physical measurements as an input to an accurate physics based model to generate an associated output; and

training a machine-learning model with Bayesian inference using said associated set of physical measurements and associated outputs as training data.

13. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein said electrical characteristic comprises capacitance.

14. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein said electrical characteristic comprises resistance.

15. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein said extraction sub-problem comprises a section of interconnect wire and nearby interconnect wiring within a define halo.

16. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein said extraction sub-problem comprises a section of interconnect wiring.

17. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein one of said set of physical measurements comprises a spacing between a pair of interconnect lines.

18. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein one of said set of physical measurements comprises a wire width.

19. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein one of said set of physical measurements comprises a wire length.

20. (Previously Presented) The computer-readable medium as claimed in claim 12 wherein selecting a set of training cases comprises randomly generating input parameters with a gamma probability distribution.